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PRINCIPAL INVESTIGATOR: Tom Rapoport, Ph.D. Carlyle B. Storm

CONTRACTING ORGANIZATION: Gordon Research Conference
West Kingston, Rhode Island 02892-0984

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Report on The Gordon Research Conference for "Molecular Membrane Biology", Proctor Academy July 4-9, 1999

The Gordon Conference brought together leading scientists in the field of protein transport across membranes, protein transport in and out of organelles, protein folding in the ER and regulation of protein folding, ER to Golgi transport, endocytosis, endosomes and Rab proteins, budding and fusion of vesicles, and Golgi assembly and membrane transport. Enclosed is the final schedule of the lectures. In addition, the participants presented a large number of posters. In fact some of the most exciting new results were presented by young investigators in posters. Overall, the meeting was very stimulating and open. On the last day in particular we had a number of lively discussions. The controversies centered around crucial questions in cell biology; for example on the question of how vesicles fuse, how vesicles are transported in cells, and whether organelles are disassembled during mitosis.

Enclosed is a compilation of the evaluations written by the participants and sent to us by the central office for Gordon Conferences. This summary sheet expresses most objectively how the conference was perceived. I believe the most important question asked was whether this was the best conference that the participant attended this year, and as you can see, most participants thought so.

The meeting was generously supported by a number of organizations, and it would not have been possible without this support. We would like to take the opportunity to thank the Department of the Army, Special Project Branch V for the generous support that they provided. It was greatly appreciated.

Tom Rapoport Professor for Cell/Biology



#### GORDON RESEARCH CONFERENCES frontiers of science

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August 25, 1999

To: 1999 GRC Chairs and Vice Chairs

Enclosed please find the results of the questionnaires completed by the conferees at your 1999 Conference. In October, the Board of Trustees and the Selection and Scheduling Committee will review all the meetings that took place in 1999 and decide on future Conference scheduling. This evaluation information will be used by the Board and the S&S Committee in evaluating the Conference. After the meeting, the Board's evaluation and decision about the future scheduling of your Conference will be forwarded to you.

Thank you for helping to keep the Gordon Conferences on the frontiers of science. If you have any questions please do not hesitate to contact us.

Best regards.

Carlyle B. Storm

Director

CBS/lrp

Enclosure

## Gordon Research Conferences - Evaluation Data

#### MOLECULAR MEMBRANE BIOLOGY Proctor Academy 7/4/99 thru 7/9/99

Demographics:												
1. Previous GRC's:	None:	25%	1 to 5:	36%	5 to 10:	24%	Over 10:	15	5%			
2. Typical annual Conf	's: 1 to 2:	59%	3 to 5:	33%	6 to 8:	7%	Over 9:		%			
3. Will attend again.:	Yes:	90%	Maybe:	10%	No:	0%			,,			
4. Professional Status:	Student:	4%	Post-Doc:	23%	Rarch Sci:	14%	Professor	: 49	%			
	Rarch Dir:	2%	Prg Mgr:	0%	Other:	8%		-				
<ol><li>Employer Type:</li></ol>	Academic:	91%	Gvmnt:	8%	Industry:	1%						
6. Age Group:	20's:	8%	30's:	43%	40's:	38%	50's:	10	%	60+:		1%
7. Gender:	Male:	72%	Female:	28%								1 /4
8. Primary residence:	U.S.:	65%	Non U.S.:	35%								
Total Attended: 1	45		# of F	Response	s: 99				% of I	Respo	nses:	68%
Conference Data:							_					
Science:							Score:	<u>%A</u>	<u>%B</u>	<u>%C</u>	<u>%D</u>	<u>%E</u>
Presentations defined	and analyzed the mo	st import	ant problems	& opportuni	ities.		1.5	63%	31%	6%	1%	0%
2. Presentations included	l a substantial amoun	t of unpu	blished work.				1.9	37%	40%			0%
3. The meeting was though			citing.				1.4	61%	33%		0%	0%
4. Presentations were at t							1.3	70%	25%		0%	0%
5. This was the best Conf	ference in this field ! a	attended	this year.				1.4	73%	14%	13%		0%
AII:							1.5				•	• 70
Discussion:												
<ol> <li>Adequate time for form</li> </ol>	al discussion was alle	owed.					1.4	69%	25%	20/	00/	•••
2. Discussion was not over	erly dominated by one	person	or group.				1.4	75%	18%	2%	3%	0%
<ol><li>Discussion Leaders ma</li></ol>	anaged & stimulated t	he discus	ssions well.				1.7	45%	38%	3%	2%	1%
<ol><li>Discussions evoked an</li></ol>	d explored new resea	arch direc	tions.				1.9	38%	40%	16%	1%	0%
<ol><li>Adequate time for information</li></ol>	mal discussion and ir	teraction	was allowed.				1.2	84%	13%	17% 2%	5%	1%
All:							1.5	0478	13/8	270	1%	0%
Organization:	printent with the state					,						
<ol> <li>Presentations were con</li> <li>The meeting did not sol</li> </ol>	lely reflect the Chaire	orgoals a	ind objectives	of the Conf	ference.		1.4	72%	20%	7%	1%	0%
Good selection of topics		tield of ir	iterest.				1.4	70%	23%	3%	3%	0%
		4	4-1-1-1				1.4	64%	30%	3%	2%	0%
4. Attendees were diverse-mix of industry, academia, established, & new professionals.						1.5	65%	24%	7%	3%	0%	
All:	5. Pool of Speakers was diverse & reflected the composition of this field.						1.7	47%	41%	9%	2%	1%
							1.5					
Management:							1)					
1. Length of talks was app							1.3	70%	25%	5%	0%	0%
2. On the whole, Speakers	were neid to their all	otted tim	<b>e</b> .				1.8	47%	39%	8%	1%	5%
There was sufficient "fre     Good selection of Speak	ken in the day for	intomal	discussions.				1.1	92%	7%	0%	1%	0%
Good selection of Speak     Speakers were readily a	ccessible before and	prepare	visual aids &	and give a	talk.		1.4	70%	25%	3%	1%	0%
<ol> <li>Speakers were readily accessible before and after presentations.</li> </ol> All:						1.3	78%	14%	7%	1%	0%	
700							1.4					
Atmosphere:												
The Conference was mo	ore than just a meetin	g, workst	nop, or collect	ion of lectur	res.		1.4	66%	26%	7%	1%	0%
2. An atmosphere for easy exchange of information was established.					1.3	76%	22%	1%	1%	0%		
The overall Conference atmosphere was friendly, not cliquish.					1.5	60%	32%	6%	1%	1%		
4. Conference business wa	4. Conference business was conducted in an open, democratic fashion (Fair, open elections).						1.2	85%	13%	2%	0%	0%
5. The Poster Presenters w	vere sufficiently acces	ssible.						60%	24%	6%	8%	2%
All:							1.4			-	•	•
					Total So	ore:	1.5	%A	%B	%C	%D	%E
								•		,,,,	,00	/• -

A: Agree Completely

B: Mild Agreement

C: No Opinion

D: Mild Disagreement E: Disagree Completely

Sunday Evening Chair: Tom Rapoport					
7.30-7.45	Welcome and Introduction				
7.45-8.45	Mike Brown and Joe Goldstein, "How membrane proteases control membrane lipids"				
Monday Morr Chair: Peter N	ning Protein transport across membranes Novick				
8.30-8.45 8.50-9.25 9.25-9.50 9.50-10.15	Group Photograph Art Johnson, "Protein translocation and integration at the ER membrane" Chris Akey, "Co-translational translocation: the channel and the gap" Reid Gilmore, "Transfer of the ribosome-nascent chain complex to the translocon: regulation by Sec61a"				
10.15-10.30 10.30-11.05	Coffee Olaf Schneewind, "Type III machines of Yersinia: how to inject proteins				
11.05-11.40 11.40-12.15	into eukaryotic cells" Walter Neupert, "Protein translocases of mitochondria" Janet Shaw, "Mitochondrial membrane dynamics in yeast"				
Monday Evening Protein transport in and out of organelles Chair: Kathryn Howell					
7.30-8.05 8.05-8.40 8.40-9.15 9.15-9-50	Danny Schnell, "Protein import into chloroplasts" Suresh Subramani, "Protein interactions during peroxisome biogenesis" Erin O'Shea, "Regulation of nucleo-cytoplasmic transport" Dirk Goerlich, "Transport in and out of the cell nucleus"				
Tuesday Morning Regulation inside and across the ER, Protein structure and folding Chair: Lila Gierasch					
9.00-9.35 9.35-10.00	Chris Kaiser, "Pathways for disulfide bond formation in the ER" Maho Niwa, "Intracellular Signaling from the Endoplasmic Reticulum to the Nucleus"				
10.00-10.25 10.25-10.40 10.40-11.15 11.15-11.50 11.50-12.25	David Ron, "Interpreting ER stress signals" Coffee Art Horwich, "GroEL-mediated protein folding" Rod McKinnon, "Structure and function of potassium channels" Doug Rees, "Structure of a mechano-sensitive channel"				
Tuesday Evening ER to Golgi Trafficking Chair: Barbara Pearse					
7.30-8.05 8.05-8.40	Hugh Pelham, "Traffic to the yeast Golgi complex" Charlie Barlowe, "COPII dependent transport from the ER to the Golgi				
8.40-9.15 9.15-9.50	complex" Susan Ferro-Novick, "An analysis of TRAPP and other factors that mediate the late stages of ER to Golgi transport" Randy Schekman, "Receptors and specialized COPII subunits involved in secretory and membrane protein cargo recruitment"				

Wednesday Morning Endocytosis Chair: Randy Schekman 9.00 - 9.35Ira Mellman, "Cell biology of antigen presentation, or how dendritic cells control the entire immune response" 9.35-10.00 Norma Andrews, "Lysosomes as calcium-regulated exocytic vesicles; a role for synaptotagmnin VII" 10.00-10.25 David Owen, "The structural basis of protein recruitment to coated pits" 10.25-10.40 Coffee 10.40-11.15 Scotti Robinson, "Adaptor protein complexes" Tom Kirchhausen, "Atomic structure of clathrin, coat assembly and cargo 11.15-11.50 sorting" 11.50-12.15 Sito Mayor, "Sphingolipid and cholesterol differentially regulate domains involved in sorting of GPI-anchored proteins in the endocytic pathway of mammalian cells" Wednesday Evening Endosomes, Rab proteins Chair: Jim Rothman 7.30-7.50 Election of next co-chair 7.50-8.15 Heidi McBride, "Rab5 and downstream effectors in endocytosis" 8.15-8.50 Jonathan Goldberg, "GTPase structure and function in vesicle budding" Catherine Jackson, "Sec7 domain ARF Exchange Factors: Targets of 8.50-9.15 Brefeldin A in vitro and in vivo" 9.15-9.50 Suzanne Pfeffer, "Protein transport from endosomes to the TGN" Budding and fusion of vesicles, Thursday Morning Chair: Suzanne Pfeffer 9.00-9.35 Jim Rothman, "Minimal machinery for membrane fusion" 9.35-10.10 Bill Wickner, "Homotypic vacuole fusion: a new window on organellar traffic" 10.10-10.35 Andreas Mayer, "Post docking events in vacuole fusion" 10.35-10.50 Coffee 10.50-11.25 Scott Emr, "Links between cell signalling, membrane trafficking and tumor progression" Yoshinori Ohsumi, "Molecular mechanism of autophay in yeast" 11.25-12.00

Thursday Evening Chair: Aki Nakano	Golgi assembly, signalling and membrane transport
Chair: Aki Nakano	<i>y, y y</i>

12.00-12.25

7.30-8.05	Jennifer Lipincott-Schwartz, "ER-Golgi recycling pathways and their role in
8.05-8.40	mitotic Golgi disassembly/reassembly"  Vivek Malhotra, "Regulation of Golgi structure in dividing and non-dividing cells"
8.40-9.15 PARTY	Graham Warren, "Biogenesis of the Golgi apparatus"

Ben Glick, "The Transitional ER-Golgi System in Budding Yeasts"